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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,346	07/30/2001	Daniel B. Clifton	00100010065	2686

7590 07/06/2004

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Chicago, IL 60601

EXAMINER

MAI, TAN V

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 07/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,346

Applicant(s)

CLIFTON, DANIEL B.

Examiner

Tan V Mai

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The examiner respectfully requests the PRIOR ART described by applicant's Figure 3.
2. The abstract of the disclosure is objected to because legal phraseology is used in this paragraph (i.e., "comprising"). Correction is required. See MPEP § 608.01(b).
3. The drawings are objected to because the "connection" between element (604) to "Xo" line (Fig. 6) is missing. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim language seems to be vague and indefinite. For instance, although the preamble of independent claims 1, 8 & 14 claim method / apparatus for "calculating an output value ...and wherein the output value comprises an output mantissa and an **output value exponent**", the claims fail to recite the necessary detail physical structures to provide the "**output value exponent**" in the claims. Sufficient detail step(s) / apparatus or elements must be recited to adequately describe and constitute the proposed method /apparatus. Therefore, the claims are incomplete in that they

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recite only a portion of the methodology required for the method / apparatus to become operational, i.e., they omit essential elements and/or steps. See MPEP 2172.01.

As per claim 13, "claim 1" is incorrect.

As per claim 14 "::-" (line 5) should be --:--.

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per method claims 1-7, the claims recite a method for performing a mathematical function. The claimed invention comprises a plurality of mental steps whereby the claimed mental steps are non-statutory subject matter. Specifically, the claimed method steps can be practiced mentally in conjunction with pen and paper.

As per apparatus claims 8-13, the claims recite **means plus functions** to perform data. The data is merely inputted to the system and then outputted. Moreover, the instant system does not provide any specific elements to perform the function(s). The apparatus claims do not recite a specific machine. Instead, it is recited that a non-specific machine accomplishes the manipulation of data, the data having no pre-or post-computer use.

However, in order for such a claimed computer-related process to be statutory, the method / apparatus claims must include either a step that results: (1) in a physical transformation outside the computer, (2) in a limitation to a practical application, or (3)

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performed specific machine/element(s). Accordingly, claims 1-13 are clearly directed to a non-statutory process.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 3-8, 10-14 and 16-19 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Noetzel.

As per independent claim 1, Noetzel teach, e.g., see Figs. 1 and 4-5, col. 2, line 25 to col. 5, line 58, col. 6, lines 6-62) the claimed combination elements. It is noted that the "a0" and the product of "a1-ad" & multipliers (35-39) are considered the claimed "point value" and "at least one slope value", respectively.

As per dependent claim 3, the claim adds the detail of the function. Noetzel discloses exponential and log functions.

As per dependent claims 4-6, Noetzel teaches the claimed detail $f(x)$.

As per independent claim 7, Noetzel teaches the claimed details, e.g., see Fig. 5, element 85.

Due to the similarity of claims 10-14 and 16-19 to claims 1, 3-8, they are rejected under a similar rationale.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable Noetzel in view of Nakayama.

Noetzel has been discussed in the paragraph #7 above.

As per dependent claim 2, the claim adds "converting the input value" feature; however, the feature is old and well known in the art. For example, Nakayama discloses a logarithmic function device having a "conversion means" for converting the "floating point input" to "fixed-point input" before performing the desired function, e.g., see col. 4, lines 14-26, col. 7, lines 45-48 & claim 2. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Nakayama's "conversion means" in Noetzel, thereby making the claimed invention, because the proposed device is capable of calculating an out value of a function base on an input value having converting the "floating point input" to "fixed-point input" before performing the desired function as claimed.

Due to the similarity of claims 9 and 15 to claims 1, they are rejected under a similar rationale.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (703) 305-9761. The examiner can normally be reached on Tue-Fri from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (703) 305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are:

After-final (703) 746-7238

Official (703) 746-7239

Non-Official/Draft (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



TAN V. MAI
PRIMARY EXAMINER